# Sarah Baldwin EDT 514

# Learning Activity 3

**Addition/Subtraction**

**What They Will Do:**

This lesson will begin with a Mad Minute. Each student is on a different mad minute at this time depending on what they have previously passed. The students are given three minutes to complete the problems. Following this we will play “Around the World” using Easiteach. Easiteach spins addition and subtraction facts with the click of a button of the computer. The problems are random. Students will compete against each other to answer addition and subtraction problems. They will face off against another student and whoever wins moves on to the next student. We will play one or two rounds of this game. At their math center students will go on <http://www.fun4thebrain.com/addition.html> and play addition games that has them practice their math facts. This will be great practice for their mad minutes. At my teacher center students will complete an addition sheet using manipulatives to help them picture and answer the problems.

**Classroom Setting:**

The setting for this activity is my classroom. For the beginning of the activity the students will sit at their seats, which are tables of about 4-5 students per table. This is where they will complete the Mad Minute. When we play Around the World students will start in their seats, but will stand at the carpet in front of our Smart Board when answering a question. For math centers students rotate from one area of the room to another. They will sit at the six computers available in the classroom to participate in the games. My center takes place at my table. The math center groups are made up of 4-5 students per group and they are placed in groups based on their academic math level and abilities.

Students have been using computers all year and used them last year in Kindergarten as well. They also have technology class once a week, so they are very familiar with computers. They are able to successfully get to the school website and then navigate to the appropriate pages. I usually have the website pulled up for them and then they find the link that says Young Learners and find games from there. This week students have not been to this website before so they will need help. I will pull the site up on their computers during lunch time so it is ready for them, but I will also show the students on my ENO Board prior to the lesson, so that if necessary they will know how to get there. The site will be saved as a bookmark so that they don’t have to type in the long address. I will also demonstrate how to play some of the games on the site. We will use this site again so that students can become more familiar with it. Before participating in this activity they need to have experience with computers, which they all do.

**Learning Objective**

The learner population for this activity is 25 first grade students.

**Standards and Benchmarks**

I am using the Common Core Standards because that is what our school follows.

[CCSS.Math.Content.1.OA.C.6](http://www.corestandards.org/Math/Content/1/OA/C/6) Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

[CCSS.Math.Content.1.OA.B.4](http://www.corestandards.org/Math/Content/1/OA/B/4) Understand subtraction as an unknown-addend problem. *For example, subtract 10 – 8 by finding the number that makes 10 when added to 8. Add and subtract within 20*.

[CCSS.Math.Content.1.OA.A.1](http://www.corestandards.org/Math/Content/1/OA/A/1) Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.1

-As a result of this activity students should be able to successfully add or subtract numbers. They should be able to quickly add and subtract number sentences by using different strategies that include counting on, using their fingers, or tricks. For example, they could use the 9 tricks. When you add a number plus 9 you can look at the other number and go 1 less and put a 1 in front of it. In 9+3 you look at the 3 and then go to 2 and put a one in front to make 12. Some students are already using this trick and are answering 9 math facts very quickly. I am trying to get my students away from using their fingers though, because this is not the quickest approach and shouldn’t get used to doing this as they get older. They should also be able to add numbers by using manipulatives and pictures to help them. Students should also be able to navigate through the Internet to get to certain websites and then use that site to play a game.

**Technology Integration**

Technology will be used to enhance the activity because it allows the students to practice what we just learned. The technology improves the learning process because Around the World using the board makes the game more exciting and also gets the students moving from the board to their seats. I feel that movement is important with small children, so this will help their learning process because they won’t have to sit still during the entire lesson. This specific technology gets the students moving and their brains thinking. The technology allows the students to extend on what they just learned in the activity. It lets them practice adding while playing the games on the computer. As a teacher the technology changes the instructional process by making the lesson more engaging. Students love competition and the game using Easiteach will help bring this out in them and I feel brings more enthusiasm and participation. It also helps to give the students a different venue to work. The games on the computer are educational, but entertaining and grabs the children’s’ attention. The site has many different games for students to choose from so they can pick a game that is right for them.

**Connection to Standards**

**PK-2.RI. Research and Information Fluency** - By the end of Grade 2 each student will:

1. Interact with Internet based resources

**PK-2.TC. Technology Operations and Concepts -** By the end of Grade 2 each student will:

1. Be able to use basic menu commands to perform common operations (e.g., open, close, save, print)

6. Understand that technology is a tool to help him/her complete a task, and is a source of information, learning, and entertainment

7. Demonstrate the ability to navigate in virtual environments (e.g., electronic books, games, simulation software, web sites.

**Student Prior Knowledge**

To assess students’ prior knowledge I have already done many adding and subtracting activities with them. I have done activities with them at my teacher center during math centers to gage how they add. For example, if they use their fingers, counting on, or pictures. I learned that some students have great difficulty adding and they don’t use any strategy. By doing these activities I ensured that the students have some prior knowledge of addition and have the ability to do it. I learned they need help with the strategies, which is what we will focus on now. I have helped them with the skill prior to this lesson, so they should be able to successfully complete the lesson.

**Content Knowledge**

I feel that I know a lot about the content being taught. I know how to quickly add and subtract. I can do math facts quickly in my head, especially the facts that my first graders are asked to do. I can complete the Mad Minute in the allotted time and I know many strategies to help assist students in order to better help them answer problems.

**Pedagogical Knowledge**

The instructional techniques used in this activity are whole group instruction, which allows me to complete the required mad Minute and allows all students to participate at the same time. The game allows me to watch students to see who can add or subtract quickly and who needs more help with the adding on strategy, which is what I have been encouraging them to use. The centers allow me to work with small groups to focus more on each student. If a student is having trouble I can offer them more assistance than when in a whole group. I use different strategies to help them with beginning addition so they can find what works best for them. We use counting-on, pictures, manipulatives and fingers (although we are trying to move away from this strategy). Some manipulatives that we use in class include linking cubes so that students can count and then connect them in to a long line and counters, which they can count and then move out of the way in to another pile, so they don’t get confused. I am using the computer center because students can then be independent and practice adding on their own. These strategies work best for this activity because the students get to work in all three forms, whole group, small groups, and individually. This gives them chances to learn and then explore. It allows me, the teacher, to differentiate and it’s a chance to see how they work in those three situations. Every child learns differently and hopefully each student is reached during this lesson.

**Technology Knowledge**

For this activity I know how to use the Internet and am able to navigate to different sites. I use games with my students all the time and I even played this specific game to make sure it was appropriate. I checked out the site to find the math games for them to play. I watched a teacher use Easiteach during summer school and I also was in charge of it a couple times. It is easy to use and I feel comfortable doing it. In order to be successful in teaching this activity I had to check out the website, play the game, and learn how to navigate the sites. I also had to learn how to hook up my computer to my board in order to use Easiteach. I practiced using this again as well.

**TPACK Analysis**

My rationale for teaching this particular content with this pedagogy and using games is because I have found that it works well with first graders and my students. I use a variety of groupings and activities in order to engage every student. Differentiation allows me to reach every student at some point during the lesson since I know that they all learn differently. My students enjoy games on the computer and even play them at home with their parents, which is why I choose to use a game for this lesson. They need to be able to quickly answer math facts. Mad Minutes and the game help to practice this skill.

I have watched many teachers throughout my years out of college and I have seen this type of strategy work effectively. I have also read articles that differentiation is successful. I have used it in my RTI experience as well. I would begin with whole group instruction to teach a variety of topics and then we would complete an activity and finally use the interactive games on the computer to help master the skill. I had a specific math group that used this approach and I saw many improvements in their math.

**Assessment Plan**

I will assess students by checking their Mad Minutes. If they get 20/20 they move to the next number and if not they will complete that number again next time. Mad Minutes are given two to three times a week. Scores are recorded so that I can monitor their progress. I will also check their answers on the worksheet that they complete at my teacher center. Finally, at the end of October the first graders will be taking a math test. On this test students will have to answer a few questions that ask them to add or subtract. I will assess their progress from checking their answers on the test. Prior to the test a study guide will be sent home. This will help me to see what is understood and what needs more work before I give the test. I will know that the learning objective was met if they successfully add and subtract.

**Learning Activity Rubric**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Category** | **3 Points** | **2 Points** | **1 Point** | **0 Points** | **Score** |
| **Activity Description** | There is a very clear and detailed description of the plan that details what the students and teacher will be doing throughout the duration of the activity. | There is a fairly clear description of the plan that details what the students and teacher will be doing throughout the duration of the activity. | There is a general description of the plan that details what the students and teacher will be doing throughout the duration of the activity. | There isn’t a clear description of the plan that details what the students and teacher will be doing throughout the duration of the activity. |  |
| **Technology Integration** | The plan clearly states how technology will be used to enhance learning. The plan also indicates how students will be supported during the project. | The plan states how technology will be used in the learning environment. The plan mostly indicates how students will be supported during the project. | There is a general statement about how technology will be used. The plan partially indicates how students will be supported during the project. | There is not a clear statement about how technology will be used. The plan doesn’t indicate how students will be supported during the project. |  |
| **Learning Objective** | There is a clear connection between the design of the activity and the stated learning objectives. The activity is well suited to help students meet the stated objectives. | There is a connection between the design of activity and the stated learning objectives. The activity is mostly suited to help students meet the stated objectives. | There is a minimal connection between the design of the activity and stated learning objectives. The activity is partially suited to help students meet the stated objectives. | There isn’t a clear connection between the design of the activity and the stated learning objectives. The activity is not suited to help students meet the stated objectives. |  |
| **Connection to Standards** | Several relevant content and technology standards are stated in the learning objective. | Some relevant content and technology standards are stated in the learning objective. | Very few relevant content and technology standards are stated in the learning objective. | No relevant content and technology standards are stated in the learning objective. |  |
| **Student Prior Knowledge** | Student prior knowledge and skills have been taken into consideration and adequate support has been designed into the activity to help the students be successful in their learning. | Student prior knowledge and skills has mostly been taken into consideration and some support has been designed into the activity to help the students be successful in their learning. | Student prior knowledge and skills has partially been taken into consideration and support has been designed into the activity on a limited basis. | Student prior knowledge and skills have not been adequately factored into the planning of the activity. |  |
| **Content Knowledge** | All of the content knowledge (CK) required of the teacher to successfully execute this activity is clearly stated in the plan. | Most of the content knowledge (CK) required of the teacher to successfully execute this activity is stated in the plan. | Some of the content knowledge (CK) required of the teacher to successfully execute this activity is stated in the plan. | Very little of the content knowledge (CK) required of the teacher to successfully execute this activity is stated in the plan. |  |
| **Pedagogical Knowledge** | All of the pedagogical knowledge (PK) required of the teacher to successfully execute this activity is clearly stated in the plan. | Most of the pedagogical knowledge (PK) required of the teacher to successfully execute this activity is stated in the plan. | Some of the pedagogical knowledge (PK) required of the teacher to successfully execute this activity is stated in the plan. | Very little of the pedagogical knowledge (PK) required of the teacher to successfully execute this activity is stated in the plan. |  |
| **Technology Knowledge** | All of the technology knowledge (TK) required of the teacher to successfully execute this activity is clearly stated in the plan. | Most of the technology knowledge (TK) required of the teacher to successfully execute this activity is stated in the plan. | Some of the technology knowledge (TK) required of the teacher to successfully execute this activity is stated in the plan. | Very little of technology knowledge (TK) required of the teacher to successfully execute this activity is stated in the plan. |  |
| **TPACK Analysis** | The learning activity includes a logically supported rationale for the technological and pedagogical decisions made throughout. | The learning activity includes a logically supported rationale for most of the technological and pedagogical decisions made throughout. | The learning activity includes a logically supported rationale for some of the technological and pedagogical decisions made throughout. | The learning activity does not include a logically supported rationale for the technological and pedagogical decisions made throughout. |  |
| **Assessment** | An adequate assessment plan has been created that clearly outlines how students and/or their work will be assessed. | An adequate assessment plan has been created that outlines how students and/or their work will be assessed. | An assessment plan has been created that mostly outlines how students and/or their work will be assessed. | An adequate assessment plan is not provided. |  |
| **Grammar & Spelling** | There are no spelling or grammar errors. | There are a few spelling and grammar errors. | There are several spelling and grammar errors. | There are multiple spelling and grammar errors. |  |

**Comments:**

**Score: /33**